-1-

SEQUENCE LISTING

5	<110>	No	rton	John , El n, A	izab		J.									
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Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val Lys Phe 5 Lys Asn Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr Val Tyr 70 75 Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys 85 90 95 10 Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln Gly Thr 110 100 105 Thr Val Thr Val Ser Ser 15 115 <210> 4 <211> 354 20 <212> DNA <213> Mus musculus <400> 4 caggtgaaac tgcagcaacc tgggtctgaa ccggtgaggc ctggagcttc agtgaaggtg 60 25 tcctgcaggg cttctggcta caaattcacc acctactgga tgcactgggt gaggcagagg 120 cctggacaag gccctgagtg gattggagat atttatcctg gtagtggtga ttctaactac 180 30 gatgtgaagt tcaagaacaa ggccacactg actgtagaca catcctccag cacagtttac 240 atacaactca gcagcctgac atctgaggac tccgcggtct attactgtgc aagaggggac 300 tatggttgcc cttttgttta ctggggccaa ggcaccacgg tcaccgtctc cagt 354 35 <210> 5 <211> 15 40 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence:peptide linker 45

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	Lys 65	Phe	Lys	Asn	Lys	Ala 70	Thr	Leu	Thr	Val	Asp 75	Thr	Ser	Ser	Ser	Thr 80
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	Tyr	Cys	Ala	Arg 100	Gly	Asp	Tyr	Gly	Cys 105	Pro	Phe	Val	Tyr	Trp 110	Gly	Gln
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25	Gly	Ser 130	Gly	Gly	Gly	Gly	Ser 135	Asp	Ile	Glu	Leu	Thr 140	Gln	Ser	Pro	Phe
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40	Thr	Asp 210	Phe	Thr	Leu	Lys	Ile 215	Ser	Arg	Val	Glu	Ala 220	Glu	Asp	Leu	Gly
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	cagaggcctg	gacaaggccc	tgagtggatt	ggagatattt	atcctggtag	tggtgattct	180
	aactacgatg	tgaagttcaa	gaacaaggcc	acactgactg	tagacacatc	ctccagcaca	240
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	ggggactatg	gttgcccttt	tgtttactgg	ggccaaggca	ccacggtcac	cgtctccagt	360
	aacaacaaca	acaacaataa	taataattet	aaaaacaaca	gcagcgacat	cgagctcact	420
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35	gaggatetgg	gagillatit	ctytteteaa	agracacacg	CCCaccac	gttcggctcg	, 2 (
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	555======	- 55	555-53-0	5: 55 - 5 - 5		- 33 3	
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<210> 11

<211> 251

40 <212> PRT

<213> Artificial Sequence

<220s

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<223> Description of Artificial Sequence: synthetic sequence substituting amino acids in the natural

## mouse protein to "humanize" the protein

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10	_,	_		20					25					30		
10	Thr	Tyr	Trp 35	Met	His	Trp	Val	Arg 40	GIn	Ala	Pro	Gly	45	Gly	Leu	GIu
15	Trp	Ile 50	Gly	Asp	Ile	Tyr	Pro 55	Gly	Ser	Gly	Asp	Ser 60	Asn	Tyr	Asp	Val
	Lys 65	Phe	Lys	Asn	Arg	Val 70	Thr	Ile	Thr	Ala	Asp 75	Thr	Ser	Thr	Ser	Thr 80
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	Tyr	Cys	Ala	Arg 100	Gly	Asp	Tyr	Gly	Cys 105	Pro	Phe	Val	Tyr	Trp 110	Gly	Gln
25	Gly	Thr	Thr 115	Val	Thr	Val	Ser	Ser 120	Gly	Gly	Gly	Gly	Ser 125	Gly	Gly	Gly
30	Gly	Ser 130	Gly	Gly	Gly	Gly	Ser 135	Asp	Ile	Val	Met	Thr 140	Gln	Ser	Pro	Ser
	Ser 145	Leu	Pro	Val	Ser	Val 150	Gly	Asp	Pro	Ala	Ser 155	Ile	Ser	Сув	Arg	Ser 160
35	Ser	Gln	Ser	Leu	Val 165	His	Ser	Asn	Arg	Asp 170	Thr	Tyr	Leu	His	Trp 175	Tyr
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40	Asn	Arg	Phe 195	Ser	Gly	Val	Pro	Asp 200	Arg	Phe	Ser	Gly	Ser 205	Gly	Ser	Gly
	Thr	Asp 210	Phe	Thr	Leu	Lys	Ile 215	Ser	Arg	Val	Glu	Ala 220	Glu	Asp	Val	Gly

Val Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Phe Thr Phe Gly Gln 225 230 235 240

5 Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala 245 250

<210> 12

10 <211> 753

<212> DNA

<213> Artificial Sequence

<220>

15 <223> Description of Artificial Sequence: synthetic sequence substituting human codons for mouse codons

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<400> 12

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<210> 13
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                                           10
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                                       25
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     Thr Tyr Trp Met His Trp Val Arg Gln Arg Pro Gly Gln Gly Pro Glu
              35
                                   40
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15	Gly	Thr	Thr 115	Val	Thr	Val	Ser	Ser 120	Gly	Gly	Gly	Gly	Ser 125	Gly	Gly	Gly
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	Thr	Asp 210	Phe	Thr	Leu	Lys	Ile 215	Ser	Arg	Val	Glu	Ala 220	Glu	Asp	Leu	GĨy
35	Val 225	Tyr	Phe	Cys	Ser	Gln 230	Ser	Thr	His	Val	Pro 235	Phe	Thr	Phe	Gly	Ser 240
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<213> Mus musculus

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cctggccaag gccctgagtg gattggcgat atttatcctg gtagtggtga ttctaactac 180 gatgtgaagt tcaagaacaa ggccacactg actgtagaca catcctccag cacagtttac 240 5 atccaactca gcagcctgac atctgaggac tccgcggtct attactgtgc aagaggggac 300 tatggttgcc cttttgttta ctggggccaa ggcaccacgg tcaccgtctc cagtggcggc 360 ggcggcagcg gtggtggtgg ttctgggggc ggcggcagcg acatcgagct cactcagtct 420 10 ccattctccc tgcctgtcag tcttggcgat ccagcctcca tctcttgccg ctctagtcag 480 agtettgtac acagtaatcg cgacacctat ctgcattggt teetgcagaa gecaggecag 540 15 tctccagagc tcctgatcta ccgcgtttcc aaccgctttt ctggggtccc agaccgcttc 600 agtggcagtg gctcagggac agatttcaca ctcaagatca gcagcgtgga ggctgaggat 660 ctgggcgttt atttctgttc tcaaagtaca catgttccat tcacgttcgg ctcggggacc 720 20 aagctggaaa tcaaacgggc ggccgcaggt gcgccggtgc cgtatccgga tccgctggaa 780 ccgcgt 786

25

<210> 18
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<213> Homo sapiens

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